

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - NSPS SOURCE

PERMITTEE

LaGrange Memorial Hospital
Attn: Michael Cole
5101 South Willow Springs Road
LaGrange, Illinois 60525

Application No.: 05030009

I.D. No.: 031153ABY

Applicant's Designation:

Date Received: March 3, 2005

Subject: Boilers & Generators

Date Issued:

Expiration Date:

Location: 5101 South Willow Springs Road, LaGrange

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of:

- 1 - 24.2 mmBtu/Hour Natural Gas Boiler with Distillate Fuel Oil Used as Backup
- 2 - 36.3 mmBtu/Hour Natural Gas Boilers with Distillate Fuel Oil Used as Backup
- 9 - Miscellaneous Natural Gas Boilers
- 2 - 1,500 kW Diesel Emergency Generators
- 1 - 75 kW Natural Gas Generator
- 2 - 12,000 Gallon Storage Tank

pursuant to the above-referenced application. This permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons/year for NO_x, CO and SO₂). As a result the source is excluded from the requirements to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes the current permit(s) issued for this location.
- 2a. No person shall cause or allow visible emissions of smoke or other particulate matter with an opacity greater than 30 percent, into the atmosphere from any emission unit other than fuel combustion emission units. The emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent, but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within 1,000 foot radius from center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in 24 hour period pursuant to 35 Ill. Adm. Code 212.123.

- b. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period to exceed 0.15 kg of particulate matter per MW-hr of actual heat input from any fuel combustion emission unit using liquid fuel exclusively (0.10 lbs/mmBtu) pursuant to 35 Ill. Adm. Code 212.206.
3. No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any new fuel combustion source with actual heat input smaller than or equal to 73.2 MW (250 mmBtu/hr), burning liquid fuel exclusively to exceed 0.45 kg of sulfur dioxide per MW-hr of actual heat input when distillate fuel oil is burned (0.3 lbs/mmBtu) pursuant to 35 Ill. Adm. Code 214.122(b) (2).
4. No person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission source with actual heat input greater than 2.9 MW (10 mmBtu/hr) to exceed 200 ppm, corrected to 50 percent excess air, pursuant to 35 Ill. Adm. Code 216.121.
- 5a. The Permittee shall not utilize distillate fuel oil (Grades No. 1 and 2) in the boilers with a sulfur content greater than the larger of the following two values:
 - i. 0.28 weight percent, or
 - ii. The wt. percent given by the formula: Maximum wt. percent sulfur = $(0.000015) \times (\text{Gross heating value of oil, Btu/lb})$.
- b. Organic liquid by-products or waste materials shall not be used in these fuel combustion emission sources.
- c. The Illinois EPA shall be allowed to sample all fuels stored at the above location.
- 6a. Emissions and operation of the 24.2 mmBtu/hour and two 36.3 mmBtu/hour natural gas boilers combined shall not exceed the following limits:

Natural Gas Usage: 22.7 mmscf/month, 136 mmscf/year.

<u>Pollutant</u>	Emission Factor	Emissions	
	<u>(Lb/mmscf)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Nitrogen Oxide (NO _x)	100.0	1.133	6.80
Carbon Monoxide (CO)	84.0	0.952	5.71
Volatile Organic Material (VOM)	5.5	0.062	0.37
Sulfur Dioxide (SO ₂)	0.6	0.005	0.03
Particulate Matter (PM)	7.6	0.086	0.52

These limits are based on the maximum boilers operations, standard emission factors AP-42, and fuel usage. Compliance with annual limits shall be determined on a monthly basis from a running total of 12 months of data.

- b. Emissions and operation of the 24.2 mmBtu/hour and two 36.3 mmBtu/hour boilers combined using distillate fuel oil as backup shall not exceed the following limits:

Fuel Oil #2 Usage: 27,000 gallons/month, 27,000 gallons/year.

<u>Pollutant</u>	<u>Emission Factor</u>		<u>Emissions</u>	
	<u>(Lb/1,000 Gal)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	
Nitrogen Oxide (NO _x)	20.0	0.270	0.270	
Carbon Monoxide (CO)	5.0	0.068	0.068	
Sulfur Dioxide (SO ₂)	42.6	0.575	0.575	
Particulate Matter (PM)	2.0	0.027	0.027	

The emissions from the boilers are based on maximum boiler fuel usage and standard emission factors AP-42. Compliance with annual limit shall be determined on a monthly basis from a running total of 12 months of data.

7. Diesel fuel shall be the only fuel fired in the two 1,500 kW generators. The use of any other fuel shall require a revised permit. Total emissions and operation of the two 1,500 kW emergency generators shall not exceed the following limits:

	<u>Operating Hours</u>			
	<u>(Hours/Month)</u>	<u>(Hours/Year)</u>		
	160	160		
<u>Pollutant (Total Both Units)</u>	<u>(Lbs/KW-Hr)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	
Nitrogen Oxide (NO _x)	0.0322	3.862	3.862	
Carbon Monoxide (CO)	0.0074	0.885	0.885	
Volatile Organic Material (VOM)	0.0009	0.113	0.113	
Sulfur Dioxide (SO ₂)	0.0030	0.365	0.365	
Particulate Matter (PM)	0.0009	0.113	0.113	

These emissions are based on standard emission factors AP-42, the use of diesel fuel, and operating limit of 80 hours per year per unit. Compliance with annual limits shall be determined from a running total of 12 months of data.

8. Natural gas shall be the only fuel fired in the nine miscellaneous boilers and 75 kW generator. The use of any other fuel shall require a revised permit. Emissions and operation of these units shall not exceed the following limits:

	<u>Natural Gas Usage</u>			
	<u>(mmscf/Month)</u>	<u>(mmscf/Year)</u>		
	7.6	76		
<u>Pollutant (Total Both Units)</u>	<u>(Lbs/mmscf)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	
Nitrogen Oxide (NO _x)	100.0	0.386	3.86	
Carbon Monoxide (CO)	84.0	0.318	3.18	
Volatile Organic Material (VOM)	5.5	0.021	0.21	
Sulfur Dioxide (SO ₂)	0.6	0.002	0.02	

Particulate Matter (PM)	7.6	0.029	0.290
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These emissions are based on standard emission factors AP-42, the use of natural gas, and operating limit of 8,760 hours per year. Compliance with annual limits shall be determined from a running total of 12 months of data.

9. This permit is issued based on negligible emissions of volatile organic material (VOM) from the storage tanks. For this purpose, total emissions from the storage tanks shall not exceed nominal emission rates of 0.1 lbs/hour and 0.44 tons/year.
10. Emissions and operation of the two ethylene oxide sterilizers shall not exceed the following limits:

<u>Usage Ethylene Oxide</u> <u>(Lbs/Hour)</u>	<u>Operation</u> <u>(Hours/Year)</u>	<u>Emissions Ethylene Oxide</u> <u>(Tons/Year)</u>
0.20	2,800	0.28

Compliance with the above limits shall be based upon the required records and standard emission factor. The annual limits shall be determined monthly based upon the last 12 months of data.

- 11a. The Permittee shall maintain monthly and annual records of the following items:
 - i. Natural gas usage of each boiler and each generator (mmscf/month and mmscf/year);
 - ii. Fuel oil usage of each boiler and each generator (gallons/month and gallons/year);
 - iii. Sulfur Content (weight %)p; and
 - iv. Monthly and annual emissions from the source with supporting calculations (tons/mo and tons/yr).
- b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
12. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

13. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

Telephone: 217/782-5811 Fax: 217/782-6348

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

Telephone: 847/294-4000

If you have any questions concerning this permit, please call George Kennedy at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:GMK:psj

cc: Region 1

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from this facility operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are below the levels (e.g., 100 tons/year NO_x and volatile organic material) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

		E M I S S I O N S (Tons/Year)				
<u>Emissions Unit</u>	<u>Fuel</u>	<u>NO_x</u>	<u>CO</u>	<u>SO₂</u>	<u>PM</u>	<u>VOM</u>
3 Boilers	Natural Gas	6.800	5,710	0.030	0.520	0.370
	#2 Oil	0.270	0.068	0.575	0.027	----
2 Generators	#2 Oil	3.862	0.885	0.365	0.113	0.113
9 Miscellaneous Boilers & 75 kW Generator	Natural Gas	3.860	3.180	0.02	0.290	0.210
2 ETO Sterilizers						0.880
2 Storage Tanks		_____	_____	_____	_____	<u>0.880</u>
Total Emissions		14.792	9.843	0.990	0.95	2.453

GMK:psj